## EL PASO BUILDING

Building Location: 1001 Louisiana Street Houston, Texas

Date of Site Visit: 9/19-20/06

**Field Notes, Background & General Observations**

Building Type: 32-story structural steel office tower with multiple basements

Material Type: Asbestos-Containing Fireproofing applied to structural steel (corrugated metal pan decking, columns and I beams) with significant overspray on walls (at roof deck interface), piping, conduit, electrical and HVAC equipment.

Fireproofing present is a vermiculite based material with a taupe colored appearance – identified as a WR Grace Monokote product.

Asbestos-Containing Acoustical Plaster is also present in the building and appears to be a spray applied material applied to plaster ceilings.

The acoustical plaster present is a vermiculite based material typically white in color – identified as a WR Grace Zonolite product.

Material Analysis: Previous bulk sample analysis by EPA/600/R-93/116 indicates that both the fireproofing and acoustical plaster present in the building are asbestos-containing

Material Location: Fireproofing is applied to the beams, columns and decking throughout the building on floors 1 thru 29 (covering most areas outside the central core of the building and within a small section of the "core" on most floors). Note: fireproofing is not located in the basement, subbasement or floors 30 – 32.

The Acoustical Plaster is generally utilized on the ceilings in the central core area of the building on each floor (except floors 1, 30 -32).

Accessibility: To Fireproofing: Generally limited to maintenance staff and trades – fireproofing is primarily located above a suspended ceiling system in the occupied areas of building comprised of a 5'x5' metal grid panels (each containing 4 fiberglass ceiling tiles and a fluorescent light fixture).

Access to the plenum is accomplished only by removing the plastic light diffuser lens from the light and the rotating two levers in the lighting fixture which allow the light box to swing open in the frame (opposite its hinged side) towards the floor. This swinging action allows the fireproofing dust and debris (which have accumulated on top of the light) to fall into the occupied space below. In addition, penetrations in the ceiling (consisting of missing tiles) provide access and fallout potential to all building occupants in those areas.

Drop ceilings are not utilized in most mechanical spaces and electrical closets which provide open – direct access and fallout potential to building maintenance staff and trades working in those areas.

To Acoustical Plaster: Open – direct access and fallout potential to all building occupants in the central core of the building.

Material Friability: Fireproofing - Friable (easily crumbled), not painted.

Acoustical Plaster - Friable with paint applied to the outer most surfaces.

Material Damage: Obvious delamination observed throughout both applications (evidenced by fireproofing and acoustical plaster dust, debris and small pea size chunks deposited on horizontal surfaces below those applications). In addition some alligator cracking was observed associated with the fireproofing along with evidence of some localized damage in a few areas (including impact, water and vibrational damage).

Based on my walk-thru, several renovations have taken place in the building over the years (potentially impacting the fireproofing) including construction of partition walls beneath the ceiling and installation of electrical conduit and hanging of wires/cables below the deck. In addition some of those activities have required small spot abatements.

**AHERA Assessment**

Current Material Condition: Fair Overall – fireproofing and acoustical plaster generally appear to be substantially intact, however fine dust and debris are visible on most horizontal surfaces below those applications. In addition, sporadic areas of larger

**AHERA Assessment (cont)**

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| | fireproofing delamination were noted on all floors consisting of pea to fist size chunks. |
| Physical Assessment: | Both materials are Friable |
| Damage Assessment: | Both materials are DAMAGED - Approximately 5 to 8% distributed damage with sporadic areas of localized damage (<25%) |
| Material Category: | Damaged Friable Surfacing ACMs |
| Potential for Disturbance: | Fireproofing: Moderate – in most areas where a suspended ceiling serves as a barrier between the fireproofing and the work space, however, maintenance activities are performed above the ceiling on a regular basis which likely disturb both source and delaminated/dislodged fireproofing. High – in the mechanical areas where no barrier separates the material from occupants.<br><br>Acoustical Plaster: Low to Moderate – in most areas the sprayed ceilings are not readily reachable to occupants other than maintenance staff. |
| Freq. of Potential Contact: | Moderate – in most building areas as maintenance and building occupants are aware of asbestos fireproofing and acoustical plaster in the building and know not to purposely disturb it. High – in the mechanical areas. |
| Influence of Vibration: | Low – in most areas of the building, and somewhat higher in sporadic areas where supplemental HVAC units are hung from the fireproofed decking. High – in the 1st floor mechanical areas. |
| Potential for Air Erosion: | Moderate – The plenum space above the suspended ceiling serves as an open air return to the HVAC system (as such low velocity air moves directly across the deteriorating fireproofing on a daily basis). Also Moderate – relative to the acoustical plaster where supply and return air in the building cores is directed across the acoustical sprayed ceiling. |
| Overall Rating: | Potential for Future Damage |

**Contamination Assessment**

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| Dust Samples: | Eight micro-vacuum settled dust samples and three surface contact samples were collected and analyzed from horizontal surfaces situated directly beneath the acoustical |

spray and fireproofing applications. Observations (relative to morphology, matrix and color) made at the time of dust collection confirmed that the dust and debris collected in the samples were from delaminated/dislodged fireproofing and acoustical plaster applied directly above the vacuumed surface. Analysis of the dust samples indicates extreme contamination in regards to the fireproofing; based on asbestos concentrations ranging from approximately 2.94 billion to 56.0 billion asbestos fibers per square foot. Analysis of the dust samples in regards to the acoustical plaster indicates moderate contamination; based on asbestos concentrations ranging from approximately 18.5 million to 88.7 million asbestos fibers per square foot. Refer to table below:

| Sample # | Sample Date | General Sample Location | Sample Surface | Asbestos Structures Counted | Asbestos (Conc.) Str/Ft$^2$ | Asbestos (Conc.) Str/Cm$^2$ | Relative Contamination Level |
|---|---|---|---|---|---|---|---|
| 1 | 9/19/2006 | El Paso 24th Floor, adjacent to W2412B | Top of HVAC Duct | 101 | $8.99x10^9$ | $9.67x10^6$ | FP - Extreme |
| 2 | 9/19/2006 | El Paso 21st Floor, adjacent to N2132A | Top of FLF supply duct | 108 | $8.54x10^9$ | $9.19x10^6$ | FP - Extreme |
| 3 | 9/19/2006 | El Paso 17th Floor, adjacent to S1704A | Top of HVAC Duct | 45 | $2.94x10^9$ | $3.17x10^6$ | FP - Extreme |
| 4 | 9/19/2006 | El Paso 17th Floor, elevator lounge area | Top of partition wall next to sofa | 13 | $1.85x10^7$ | $1.99x10^4$ | AP - Moderate |
| 5 | 9/19/2006 | El Paso 12th Floor, adjacent to E1244A | Top of FLF supply duct | 66 | $9.00x10^9$ | $9.69x10^6$ | FP - Extreme |
| 6 | 9/19/2006 | El Paso 6th Floor, adjacent to S601 | Top of HVAC Duct | 100 | $2.18x10^{10}$ | $2.35x10^7$ | FP - Extreme |
| 7 | 9/19/2006 | El Paso 25th Floor, elevator lobby - northside | Top of wall sconce | 16 | $8.87x10^7$ | $9.55x10^4$ | AP - Moderate |
| 8 | 9/19/2006 | El Paso B Floor, tunnel at El Paso display case | Top of display case | 137 | $5.60x10^{10}$ | $6.03x10^7$ | FP - Extreme |

Acoustical Plaster

Direct Prep Analysis of the three surface contact samples revealed the presence of free un-encapsulated Chrysotile asbestos fibers in each of the samples. This data confirms the release of respirable fibers from the fireproofing present in the subject building.

| Sample # | Sample Date | General Sample Location | Sample Surface | Sample Area | Free Asbestos Fibers Observed |
|---|---|---|---|---|---|
| 9 | 9/20/2006 | El Paso 10th Floor, in W1011B | Top of foil wrapped HVAC duct | 47 mm | Yes |
| 10 | 9/20/2006 | El Paso 6th Floor, in S603B | Top of FLF supply duct | 47 mm | Yes |
| 11 | 9/20/2006 | El Paso 1st Floor, in pipe shaft adj to stairwell D | Top of metal HVAC duct | 47 mm | Yes |

Photographs: **EL PASO** BUILDING

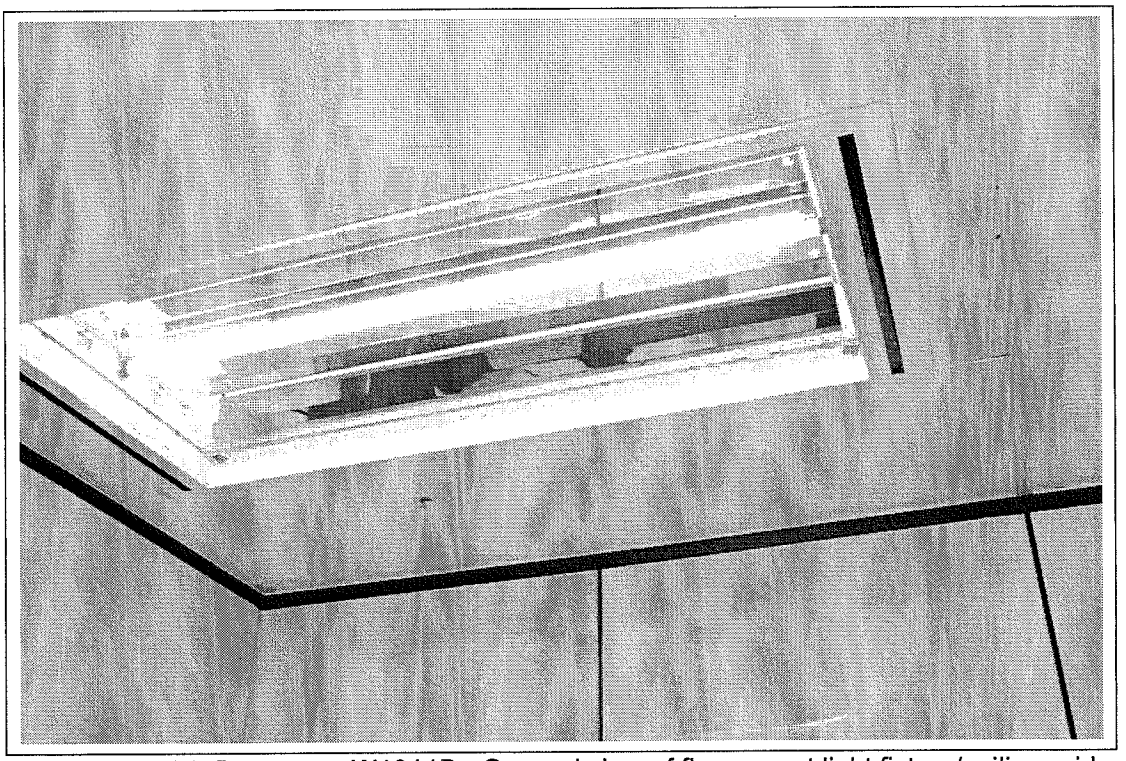

Photo 60. 10th floor, room W1011B - General view of fluorescent light fixture/ceiling grid system

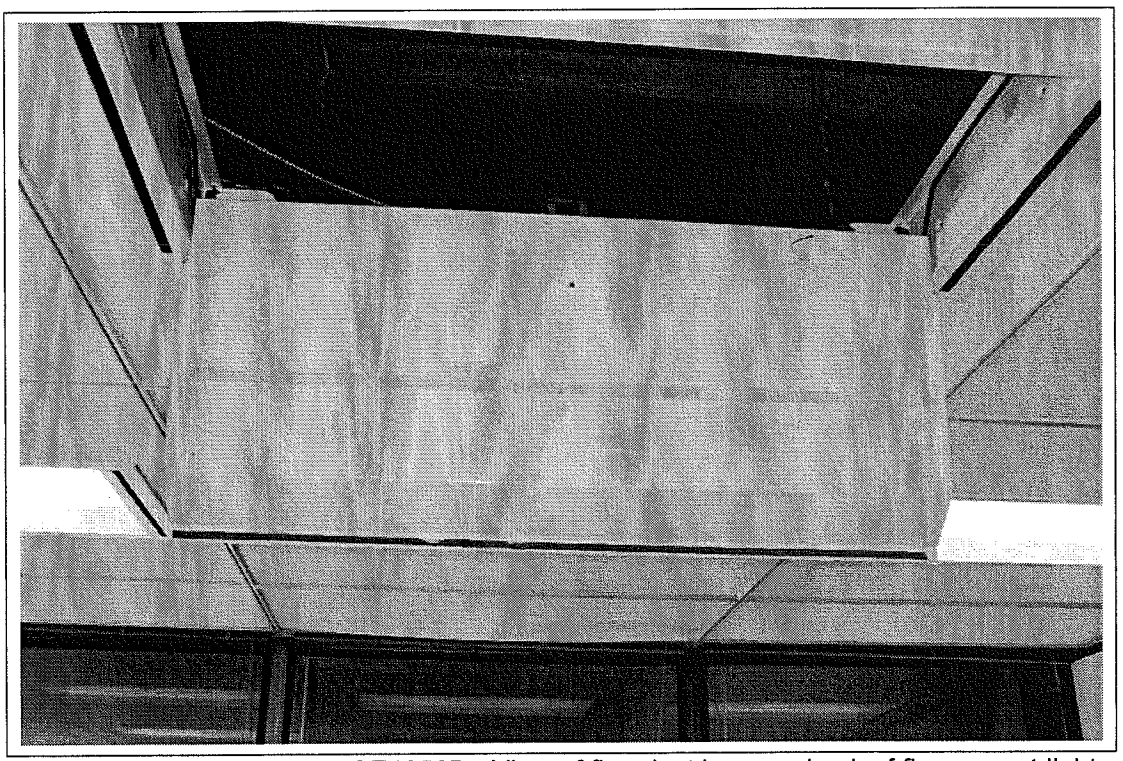

Photo 61. 19th floor, room SE1952B - View of fine dust layer on back of fluorescent light fixture